

SO/PHI data request form
(first science orbit; SO/PHI-Team internal version)

Looking for photospheric counterparts of SPICE/EUI/coronal blue-shifted events

Moreno Vacas , A. [1], Harra, L. [2][3], Schwanitz, C. [2][3], Orozco Suárez, D. [1], del Toro Iniesta, J.C. [1]

[1] Instituto de Astrofísica de Andalucía-CSIC (IAA-CSIC)

[2] Eidgenössische Technische Hochschule Zürich (ETH)

[3] Physikalisch-Meteorologisches Observatorium Davos/World Radiation Center (PMOD/WRC)

Science case:

please also state, why is PHI needed; why is the science unique?

- Recent observations combining Hinode(EIS) and SDO(AIA&HMI) showed relationship between magnetic cancellations in the photosphere and coronal strong blue-shifts close to coronal hole boundaries.
- Observation of solar structures in network regions with PHI, EUV and SPICE to study their similarities/differences in order to understand the consequences of photospheric magnetic evolution in quiet coronal features.
- Solar Orbiter will provide simultaneous, same point of view and same resolution (high resolution) data with PHI and EUV and spectroscopic data from SPICE.
- We want to study the same phenomena in photosphere and chromosphere in order to establish a relationship between solar structures in both layers. We will need a great number of events to have good statistics.

Requirements/data

- Type of solar feature: Network regions close to coronal holes boundaries
- HRT or FDT: HRT
- Physical parameters needed (available: B_LOS, vector B, v_LOS, I_c, raw data): vector B, v_LOS, I_c
- Total length of observation: 1 hour
- Cadence (maximum 1 dataset/min): 1 min
- Pointing needs (disk center, limb, ...): Coronal holes boundaries at center
- Orbit needs (spatial resolution/co-rotation/angle to Earth/angle to other spacecraft): Perihelion
- Total number of datasets: 60
- Full frame 2k x 2k or partial frame 1kx1k, 0.5kx0.5: 2kx2k
- Full resolution or 2x2, 4x4 binned data: Full Resolution
- noise level (default 10^{-3}): 10^{-3}
- Co-observations with other instruments: EUI & SPICE + AIA(SDO) & EIS(HINODE) when available
- Special requests: Coordination with EUI & SPICE